UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,991	10/17/2001	Bassam M. Hashem	71493-953/pw	4493

7590   02/20/2009

SMART & BIGGAR
P.O. Box 2999, Station D
900-55 Metcalfe Street
Ottawa, ON K1P 5Y6
CANADA

EXAMINER
HUYNH, NAM TRUNG

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
02/20/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 October 2008*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This office action is in response to amendment filed on 10/16/2008. Of the

previously presented claims 1-15 no amendments were made.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
          obviousness or nonobviousness.

3.   Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ramos et al. (US 7,072,663) (hereinafter Ramos) in view of Shakhgildian (US

6,584,325).

Regarding claims 1, 8, and 9, Ramos discloses radio resource management (title). In the scope of the invention, Common Radio Resource Management (CRRM) (base station controller) conducts a cell prioritization algorithm to choose or assign the optimum target cell for connection in call setup, idle mode and in handovers/cell reselections (method for selecting at least one base station for communicating with a terminal) (column 4, lines 21-24). The prioritization algorithm orders the cells to assign the optimum target cell for connection in call setup, idle mode and in handovers/cell reselections based on a QoS requirement that takes into account throughput for services (column 9, lines 15-29; column 12, lines 10-25) (selecting at least one optimum base station from a candidate set).

Ramos discloses that the candidate target cell is chosen based upon parameters such as total load which includes information on the uplink, downlink, or both (selecting a base station based on uplink or downlink parameters) (column 4, lines 48-52; column 5, lines 51-55), but does not explicitly disclose storing an uplink candidate set listing and a downlink candidate set listing, determining a predominant direction of traffic with respect to the terminal, and if the predominant direction of traffic is in an uplink direction, selecting at least one optimum base station from the uplink candidate set; and if the predominant direction of traffic is in a downlink direction, selecting at least one optimum base station from the downlink candidate set. Shakhgildian discloses a subscriber unit and method of cell selection for a cellular communication system. Shakhgildian teaches that a subscriber unit receives uplink and downlink characteristics information for a target set of base stations (column 5, lines 35-43) and uses these performance

indicators for cell selection (column 5, lines 54-67). If a short message data message is to be transmitted from the subscriber unit (determining a predominant direction of traffic with respect to the terminal), then the base station with the best uplink performance will be selected (if the predominant direction of traffic is in an uplink direction, selecting at least one optimum base station from the uplink candidate set) (column 6, lines 6-16). With respect to the downlink direction of traffic, Shakhgildian teaches that cell selection based on downlink signal levels are known in the art. Thus it is obvious to a skilled artisan that a base station can be chosen based on the best downlink performance indicator if the subscriber unit requires a service such as downloading a data file. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the prioritization algorithm of Ramos to distinguish candidate cells in the uplink and downlink direction and allow cells to be chosen based on the best uplink/downlink performance indicator and a predominant direction of traffic, as taught by Shakhgildian, in order to optimize system resource when a mobile device sends data in an uplink direction. This modification provides a better balance between downlink and uplink quality criteria in cell selection resulting in a more efficient utilization and thus increased capacity of the cellular communication system.

Regarding claims 2, 4, 5, 10, and 12, Ramos discloses CRRM receives periodic or on demand information from the status of cell resources such as current traffic load of the cell, total load, and cell interference status, which are quality indicators (column 5, lines 15-65). This information is used to provide a revised candidate target cell list where the candidate cells are given a weighting or priority rating (column 7, lines 9-11).

Therefore it is further obvious to one of ordinary skill in the art that based upon the received information; cells may be excluded or included in the candidate list.

Regarding claims 3, 11, and 13, Ramos teaches that handover thresholds/margins may be considered in cell capability (column 7, lines 1-5).

Regarding claims 6 and 14, it is inherent that the identity of the base station or cell is transmitted in the cell candidate list in the invention of Ramos.

Regarding claims 7 and 15, the CRRM of Ramos et al. takes into account the current traffic load of the cell (column 5, lines 15-18).

Response to Arguments

4.   Applicant's arguments filed 10/16/08 have been fully considered but they are not persuasive. Applicant submits that the combination of Ramos and Shakhgildian does not teach storing separate uplink and downlink candidate sets. The Examiner agrees with this submission, but would like to point out that the claim language does not require "separate" or "independent" candidate lists. The claim merely recites "storing an uplink candidate set listing" and "storing a downlink candidate set listing" which is rendered by the single candidate listing in the combination of the two inventions. The combination of Ramos and Shakhgildian is the candidate cell listing and prioritization algorithm of Ramos which is prioritized or ordered by the uplink and downlink performance indicator of Shakhgildian. In the candidate listing of the combination, performances in the uplink and downlink direction are distinguished between cells and sorted, therefore an "uplink

candidate set listing" and a "downlink candidate set listing" is rendered in the single listing which satisfies the limitations as recited by the claim language.

With respect to selection to a predominant direction of traffic with respect to the terminal, Shakhgildian teaches in an embodiment of the invention that a base station is selected with the best uplink performance when a short data message is to be sent (column 6, lines 6-16). This embodiment broadly teaches selection of a base station based on uplink performance and the required service. Sending a short data message would be more efficient if a serving base station is selected that has optimal uplink performance because a short data message is sent or uploaded to the network from the subscriber unit. In the downlink direction as stated above, a skilled artisan would recognize that Shakhgildian may operate to choose a base station with the best downlink performance when the subscriber unit based on a service that requires optimal downlink performance such as downloading a data file. Therefore for these reasons and the reasons set forth above, the rejection for independent claim 1 and related claim 9 has been maintained.

Conclusion

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to NAM HUYNH whose telephone number is (571)272-

5970. The examiner can normally be reached on 8 a.m.-5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, George Eng can be reached on 571-272-7495. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Eng/   NTH
Supervisory Patent Examiner, Art Unit 2617   2/13/09